



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
09.03.2016 Bulletin 2016/10

(51) Int Cl.:
H04N 19/105 ^(2014.01) **H04N 19/176** ^(2014.01)
H04N 19/70 ^(2014.01) **H04N 19/196** ^(2014.01)
H04N 19/112 ^(2014.01) **H04N 19/16** ^(2014.01)

(43) Date of publication A2:
11.02.2015 Bulletin 2015/07

(21) Application number: **14183528.0**

(22) Date of filing: **22.09.2003**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

(30) Priority: **01.10.2002 JP 2002289303**

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
10165422.6 / 2 239 949
03799117.1 / 1 549 077

(71) Applicant: **Godo Kaisha IP Bridge 1**
Tokyo 101-0051 (JP)

(72) Inventors:
• **Kadono, Shinya**
Osaka, 540-6207 (JP)
• **Kondo, Satoshi**
Osaka, 540-6207 (JP)
• **Abe, Kiyofumi**
Osaka, 540-6207 (JP)

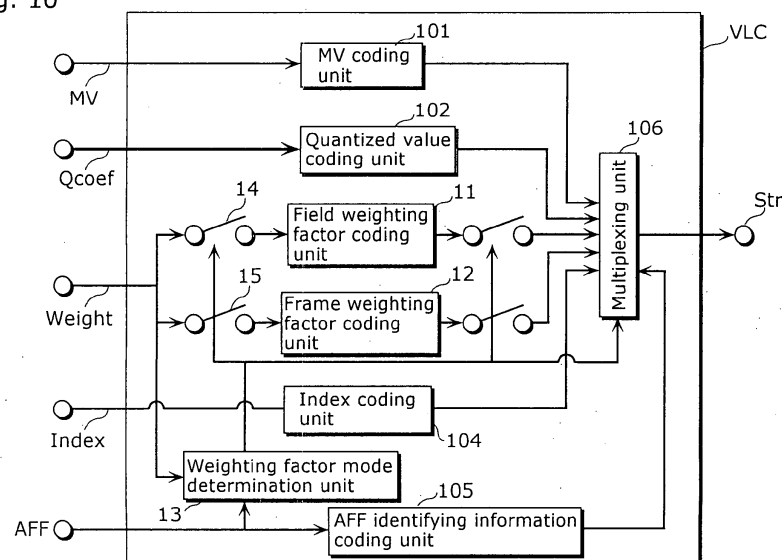
(74) Representative: **Eisenführ Speiser**
Patentanwälte Rechtsanwälte PartGmbB
Postfach 10 60 78
28060 Bremen (DE)

(54) **Image encoding device and method**

(57) A weighting factor mode determination unit (13) determines whether to code an interlaced picture in a field mode or a frame mode, based on a value of a flag "AFF" indicating whether or not to switch between the field mode and the frame mode on a block-by-block basis and notifies switches (14 and 15) and a multiplexing unit

(106) of the determined mode. The switches (14 and 15) select either the field mode or the frame mode according to the notified mode. A field weighting factor coding unit (11) or a frame weighting factor coding unit (12) performs respectively the coding of respective weighting factors when the respective modes are selected.

Fig. 10





EUROPEAN SEARCH REPORT

Application Number
EP 14 18 3528

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	PANUSOPONE K ET AL: "Multi-frame interpolative prediction in AFF", JOINT VIDEO TEAM (JVT) OF ISO/IEC MPEG AND ITU-T VCEG, 4TH MEETING: KLAGENFURT, AUSTRIA, 22-26 JULY 2002, no. JVT-D090, 26 July 2002 (2002-07-26), XP030005364, * the whole document *	1,2	INV. H04N19/105 H04N19/176 H04N19/70 H04N19/196 H04N19/112 H04N19/16
A	LIMIN WANG ET AL: "MB-Level Adaptive Frame/Field Coding for JVT", JOINT VIDEO TEAM (JVT) OF ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 AND ITU-T SG16 Q6), no. JVT-B106, 1 February 2002 (2002-02-01), XP030005103, * the whole document *	1,2	
A	"TEXT OF COMMITTEE DRAFT OF JOINT VIDEO SPECIFICATION (ITU-T REC. H-264 ISO/IEC 14496-10 AVC) MPEG02/N4810", ISO/IEC JTC1/SC29/WG11 MPEG02/N4810, FAIRFAX, US, May 2002 (2002-05), pages I-X,1, XP001074690, * pages 6-7, paragraph 6.1 * * page 16, paragraph 7.3.7 * * Table 8-6; page 33, paragraph 8.2.6 - paragraph 8.2.6.3 * * Figure 11-2; pages 100-107, paragraph 11 - paragraph 11.5.2 * ----- -/--	1,2	TECHNICAL FIELDS SEARCHED (IPC) H04N
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 1 February 2016	Examiner Lombardi, Giancarlo
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P04C01)



EUROPEAN SEARCH REPORT

Application Number
EP 14 18 3528

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	"Text of ISO/IEC 14496-10 FCD Advanced Video Coding", 61. MPEG MEETING; 22-07-2002 - 26-07-2002; KLAGENFURT; (MOTION PICTURE EXPERT GROUP OR ISO/IEC JTC1/SC29/WG11), no. N4920, 11 August 2002 (2002-08-11), XP030012343, ISSN: 0000-0365 * pages 7-8, paragraph 6.1 * * pages 15-17, paragraph 7.3.2.1 - paragraph 7.3.2.2 * * pages 20-23, paragraph 7.3.3 - paragraph 7.3.3.3 * * page 60, paragraph 8.3.6.9 * * pages 32-49, paragraph 7.4.2.1 - paragraph 7.4.5.3.2 * * pages 112-121, paragraph 10 - paragraph 10.4.3 *	1,2	
A	----- KIKUCHI Y ET AL: "Improved multiple frame motion compensation using frame interpolation", JOINT VIDEO TEAM (JVT) OF ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 AND ITU-T SG16 Q6), no. JVT-B075, 29 January 2002 (2002-01-29) , pages 1-5, XP002340658, * the whole document *	1,2	TECHNICAL FIELDS SEARCHED (IPC)
A	----- YOSHIHIO K ET AL: "Multi-frame interpolative prediction with modified syntax", JOINT VIDEO TEAM (JVT) OF ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 AND ITU-T SG16 Q6), 3RD MEETING: FAIRFAX, VIRGINIA, USA, DOCUMENT JVT-C066, 6 March 2002 (2002-03-06), XP002461012, * the whole document *	1,2	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 1 February 2016	Examiner Lombardi, Giancarlo
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P04C01)